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Welfare Benefits and Unemployment in Affluent Democracies: The Moderating Role of the Institutional Insider/Outsider Divide

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Welfare Benefits and Unemployment in Affluent Democracies: The Moderating Role of the Institutional Insider/Outsider Divide

Thomas Biegert[a]

Abstract

The effect of generous welfare benefits on unemployment is highly contested. The dominant perspective contends that benefits provide disincentive to work, whereas others portray benefits as job-search subsidies that facilitate better job matches. Despite many studies of welfare benefits and unemployment, the literature has neglected how this relationship might vary across institutional contexts. This article investigates how unemployment benefits and minimum income benefits affect unemployment across levels of the institutional insider/outsider divide. I analyze the moderating role of the disparity in employment protection for holders of permanent and temporary contracts and of the configuration of wage bargaining. The analysis combines data from 20 European countries and the United States using the European Union Labour Force Survey and the Current Population Survey 1992–2009. I use a pseudo-panel approach, including fixed effects for sociodemographic groups within countries and interactions between benefits and institutions. The results indicate that unemployment benefits and minimum income benefits successfully subsidize job search and reduce unemployment in labor markets with a moderate institutional insider/outsider divide. However, when there is greater disparity in employment protection and when bargaining either combines low unionization with high centralization or high unionization with low centralization, generous benefits create a disincentive to work, plausibly because attractive job opportunities are scarce.

Keywords

unemployment, welfare state, labor market institutions, institutional interactions, quantitative methods

In 2008, U.S. policymakers extended the maximum duration of unemployment benefits from a 26-week limit to 73 weeks (with some variation across states) to ameliorate the effects of the dramatic increase in unemployment during the economic crisis. This more generous approach to benefits was short-lived, however, as the temporary Emergency Unemployment Compensation program expired at the end of 2013. The basic argument for not further extending benefits was, as U.S.

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Senator Jon Kyl put it in 2010, that generous unemployment insurance "doesn't create new jobs. In fact, if anything, continuing to pay people unemployment compensation is a disincentive for them to seek new work" (156 Congressional Record:845). Regarding Senator Kyl's point, Card and colleagues (2015) argued that although the duration of unemployment spells generally increases with benefit levels, this relationship was particularly strong during the crisis. Indeed, many scholars argue that generous and long-running welfare benefits act as a disincentive to work and thus increase unemployment (e.g., Lalive 2007; Layard, Nickell, and Jackman 2005; Meyer 1990; Nickell 1997; for a recent overview see Schmieder and von Waechter 2016). The notion of a disincentive effect has found its way into influential policy recommendations (OECD 1994, 2006) and has been used to justify welfare state retrenchment in a number of countries in recent decades (Blyth 2002).

The disincentive perspective is highly contested. Other researchers have presented fundamentally different arguments about the effect of welfare benefits on unemployment. Howell and Azizoglu (2011), for instance, argue that if benefit generosity increased U.S. unemployment during the crisis, it did so by keeping workers closely attached to the labor market rather than by encouraging them to drop out of the labor force. The most prominent theoretical argument is that instead of functioning as work disincentives, benefits financially subsidize the job-search process (Gangl 2004, 2006; Pollmann-Schult and Büchel 2005). According to this perspective, welfare benefits for the unemployed relieve the pressure to take on bad jobs and enable further education and training (Estevez-Abe, Iversen, and Soskice 2001; Morel, Palier, and Palme 2012). Eventually, this leads to better job matches and fewer job separations, which lowers unemployment in the long run (Nelson and Stephens 2012).

The disincentive and job-search-subsidy perspectives differ greatly in their understanding of the functions of welfare benefits for jobseekers. Both views have been tested in a multitude of case studies and macro comparative analyses. Some of this work offers empirical support for the disincentive argument (e.g., Card et al. 2015; Lalive 2007; Meyer 1990; Nickell 1997); other work supports the job-search-subsidy argument (e.g., Gangl 2004, 2006; Nelson and Stephens 2012). Moreover, critical assessments of the literature have convincingly called into question the existing results, particularly in regard to how micro-level mechanisms play out at the aggregate level (Atkinson and Micklewright 1991; Avdagic and Salardi 2013; Baccaro and Rei 2007; Baker et al. 2005; Howell and Rehm 2009; Sjöberg 2000). Ultimately, the literature offers quite mixed empirical evidence on the relationship between generous welfare benefits and unemployment levels.

This article proposes that the effect of benefits on unemployment differs by institutional context. The argument rests on the assumption that benefits are part of the interplay of institutions in a complex system (see Amable 2003; Hall and Soskice 2001; Iversen 2005). Drawing on recent research on the growing disparities between labor market insiders (individuals with permanent employment) and outsiders (the unemployed and individuals with temporary employment) (Barbieri and Cutuli 2016; Biegert 2014; Emmenegger et al. 2012; Palier and Thelen 2010; Schwander and Häusermann 2013), I highlight the interaction of welfare benefits with the institutional divide between labor market insiders and outsiders. I argue that the institutional insider/outsider divide is determined by the disparity between employment protection legislation (EPL) for individuals on permanent contracts and temporary contracts and by the configuration of unionization and centralization in the wage bargaining process. By inadvertently influencing the availability of quality jobs for jobseekers, the degree to which institutions create a division between labor market insiders and outsiders moderates how generous welfare benefits affect unemployment.

The article makes three unique contributions to the literature. First, by focusing on the interaction with the institutional insider/outsider divide, it develops theoretical explanations of the relationship between welfare

benefits and labor market outcomes. To test these propositions empirically, I combine institutional indicators with data on individual unemployment from 20 European countries in the European Union Labour Force Survey (EULFS) and the United States Current Population Survey (CPS; Flood et al. 2015) for 1992–2009. I transform the cross-sectional time series data into pseudo-panels at the level of sociodemographic groups (Deaton 1985; Verbeek and Vella 2005). Applying the pseudo-panel technique enables the use of fixed effects. It thus helps rule out bias due to stable differences between sociodemographic groups and country-specific factors. As a second contribution, the analysis illustrates an underutilized method that provides comparative researchers with a novel approach to cross-sectional time series data (for other recent applications, see Barbieri and Cutuli 2016; Jæger 2013; Neugebauer 2015). Finally, the article extends the scope of previous studies by analyzing both unemployment benefits and minimum income benefits. Most existing research focuses on unemployment benefits as the sole welfare benefit for the unemployed. This neglects the fact that many jobseekers are not eligible to receive unemployment insurance (Atkinson and Micklewright 1991; Howell and Rehm 2009). Minimum income benefits include social assistance, housing benefits, child support, and other benefits the state provides to needy people when benefit systems, such as unemployment insurance, fail (Nelson 2010). By analyzing the relationship between unemployment and both unemployment benefits and minimum income benefits, the present analysis thus delivers more robust evidence for the relationship between welfare benefits for the unemployed and unemployment levels.

WELFARE BENEFITS AS A WORK DISINCENTIVE

A large body of research argues that generous benefits for jobseekers create a disincentive to work, which raises unemployment levels (e.g., Card et al. 2015, Lalive 2007; Layard et al. 2005; Meyer 1990; Nickell 1997). The disincentive perspective is based on the theoretical argument that individuals' reservation wages increase when high living standards can be achieved without having to work. Given that the reservation wage marks the line below which individuals will reject job offers, higher benefits will result in a larger number of jobs not being taken. Therefore, the basic expectation is that countries with more generous welfare benefits will have higher unemployment.

Many quantitative studies have tested the disincentive perspective. Micro-level studies usually look at policy shifts and explore whether they lead to changes in the duration of individual unemployment spells (e.g., Card et al. 2015; Lalive 2007; van Ours and Vodopivec 2006). Meyer (1990), for instance, showed that higher benefits lead to fewer exits from unemployment in the United States. Strengthening the case for the disincentive perspective, he found that exits from unemployment became more frequent just when benefits were about to expire. More recently, Card and colleagues (2015) used data from Missouri and a regression kink design to show that the increase in the unemployment duration due to benefits is markedly larger in adverse macro-economic conditions.

To test whether the micro-level mechanism plays out on the aggregate level, macro-comparative studies use the variation of unemployment benefits across countries and years to investigate the relationship with unemployment rates. In a prominent study, Nickell (1997) regressed unemployment rates on macro indicators of institutional arrangements. He found a positive association between generous benefits and unemployment in OECD countries. In comparison to findings regarding other labor market institutions, such as EPL, unionization, and wage bargaining centralization, the detrimental effect of unemployment benefits is one of the more consistent results in this literature (e.g., Layard et al. 2005; OECD 2006).

At first sight, there seems to be empirical support for the disincentive perspective. However, several critical summaries of the literature argue that the existing evidence is far less

compelling than is widely believed (see Atkinson and Micklewright 1991; Avdagic and Salardi 2013; Baccaro and Rei 2007; Baker et al. 2005; Howell and Rehm 2009; Sjöberg 2000). Although the evidence from micro-level studies is fairly robust, Howell and Rehm (2009) point out that the magnitude of the effects found in these studies is typically quite modest (see also Atkinson and Micklewright 1991). Single-country case studies, moreover, cannot account for the labor market and macro-economic context, which raises the question of confounding macro factors and generalizability. Regarding macro-comparative studies, Howell and Rehm (2009) problematize the comparability of the reported unemployment rates used in these studies because national definitions of unemployment differ. Furthermore, they criticize the use of gross replacement rates as an indicator for unemployment benefit generosity (i.e., the percentage of previous earnings an average production worker receives from insurance before taxes and social security contributions).

Studies using net replacement rates (i.e., the insurance payments net of taxes and social insurance contribution) have found only a weak correlation between unemployment benefits and unemployment rates (Howell and Rehm 2009; Sjöberg 2000). These limitations are increasingly recognized in the literature on the disincentive perspective (for an overview, see Schmieder and von Waechter 2016), but most of the discussion is limited to the size of the disincentive effect. In summary, the empirical support for the disincentive argument is mixed, particularly in regard to aggregate unemployment. Additional mechanisms such as job-search-subsidy effects could explain why micro-level disincentives do not necessarily translate into aggregate unemployment.

WELFARE BENEFITS AS A JOB-SEARCH SUBSIDY

In contrast to the disincentive perspective, scholars have argued that generous benefits could reduce unemployment by serving as a job-search subsidy (Gangl 2004, 2006; Nelson and Stephens 2012). The basis for this argument is that employment and unemployment are the result of a matching process conducted by jobseekers and employers (see Sørensen and Kalleberg 1981). In contrast to the orthodox economic perspective, the job match perspective highlights that unemployment is not primarily caused by poor labor supply. Rather, it is the result of the interaction between labor supply and labor demand.

In this framework, generous benefits can promote employment through two mechanisms. First, benefits allow jobseekers to be more selective about job offers by providing a buffer in times of joblessness. This increases the quality of the ultimate match between jobseeker and job, which in turn decreases separations and thus boosts employment levels (Gangl 2004, 2006; Pollmann-Schult and Büchel 2005). Second, generous benefits allow workers to invest in specific skills, because they provide insurance at times when these workers are seeking jobs. The result is a workforce with generally higher and more specific skills, again creating higher quality matches for job vacancies (Estevez-Abe et al. 2001). Hence, proponents of the job-search-subsidy perspective do not question the potentially longer duration of individual unemployment spells in a context of high benefits. However, they reason that generous benefits will lead to lower unemployment in the long run and on the aggregate level because of better job matches and the improved employability of jobseekers (see also Morel et al. 2012; Wulfgramm and Fervers 2015).

These arguments have been tested in micro-level designs and macro-comparative research, although not as extensively as the disincentive argument. On the micro level, studies have focused on the quality of job matches after unemployment spells and how they vary across different benefit environments. Pollmann-Schult and Büchel (2005), for instance, showed that in Germany, not receiving unemployment benefits is associated with shorter search periods but also with

over-education in the next job. Comparing Germany and the United States, Gangl (2004) found that generous unemployment benefits lead to less dramatic losses in post-unemployment income. This finding was confirmed in a wider comparison involving the United States and 12 European countries (Gangl 2006). Nelson and Stephens (2012) investigated the employment effects of social investment policies, such as generous initial unemployment benefits,[1] active labor market policies (ALMP), and childcare provision. They conducted an analysis similar to the macro-level studies on the disincentive perspective and found that unemployment benefits are positively associated with employment levels and job quality.

Beyond the methodological questions discussed in the previous section, both literatures have unfortunately neglected two issues. First, neither account has investigated institutional interactions. The literature on national production systems argues strongly for the existence of interdependencies in the institutional settings of economies (see Amable 2003; Hall and Soskice 2001; Iversen 2005). The function of an institution such as welfare benefits likely depends on the institutional context. Institutional interactions have started to play a more prominent role in quantitative labor market research (e.g., Bassanini and Duval 2009; Belot and van Ours 2004; Gangl 2006; see also Schmieder and von Waechter 2016). However, to the best of my knowledge, no studies on unemployment have explicitly focused on the interaction between benefits and their labor market context.

Second, both literatures focus overwhelmingly on unemployment benefits. In most countries, social rights to unemployment benefits have to be earned through previous employment. As a consequence, only a particular segment of the unemployed can receive benefits through unemployment insurance. This selectivity might result in biased outcomes because the dependent variable in macro studies is usually the aggregate unemployment rate, which includes many who are not eligible for unemployment benefits. Minimum income benefits—that is, means-tested publicly provided benefits—have rarely been considered in studies on benefit effects. Theoretically, they should operate via the same mechanisms as unemployment benefits—either by acting as work disincentives or by subsidizing job search. Because minimum income benefits are more widely available to the unemployed population, they need to be included in studies of social security regimes for unemployed individuals (Pfeifer 2012).

THE INSTITUTIONAL INSIDER/OUTSIDER DIVIDE AND WELFARE BENEFIT EFFECTS ON UNEMPLOYMENT

The argument in this section rests on the assumption that welfare benefits are part of a complex institutional system (Amable 2003; Hall and Soskice 2001; Iversen 2005): "institutions matter and . . . institutions interact" (Belot and van Ours 2004:640). Hence, the relationship between benefits and unemployment plausibly depends on the distribution of job opportunities for jobseekers. Job-search subsidies will likely be more successful when there is a larger pool of quality job opportunities. Conversely, generous benefits should act as a stronger disincentive to jobseekers in contexts with fewer good job opportunities. Recent research that describes a growing gap between labor market insiders and outsiders indicates that the institutional configuration of the labor market affects the distribution of job opportunities.

Institutions and the Divide between Insiders and Outsiders

With the growing attention to rising economic inequality in rich democracies, there has been a renewed interest in the notion of labor market insiders and outsiders. Building from classic theories of insiders and outsiders and dual or segmented labor markets (see Doeringer

and Piore 1971; Kalleberg, Wallace, and Althauser 1981; Lindbeck and Snower 1988), European scholars have described a process of labor market dualization between individuals with permanent employment (insiders) and those without it (outsiders), that is, the unemployed and individuals in temporary jobs, who have a higher propensity of becoming unemployed (Emmenegger et al. 2012; Palier and Thelen 2010; Rueda 2005, 2014).[2] This recent literature rests on the assumption that insiders are in a powerful bargaining position because the replacement of workers has transaction costs for employers. Therefore, insiders can achieve their goals in a variety of ways, be it through cross-class coalitions with employers, union representation, or social democratic parties (see Davidsson and Emmenegger 2013; Goldthorpe 1984; Rueda 2005). This, the dualization literature argues, disadvantages outsiders.

Although insiders have an advantageous bargaining position in every economy, the dualization literature argues that the gap between insiders and outsiders can be widened by labor market institutions. The setup of institutions such as EPL and the wage bargaining process determine the positional advantage of individuals in jobs at the core of the labor market (Emmenegger et al. 2012; Palier and Thelen 2010; Thelen 2014). Traditionally, the literature has emphasized the benefits of regulation and coordination, for instance, in regard to wage inequality (e.g., Brady, Baker, and Finnigan 2013; Jacobs and Myers 2014). By contrast, the dualization literature points to configurations in which regulating institutions have unintended effects on inequality (Emmenegger et al. 2012; Palier and Thelen 2010; Rueda 2005, 2014). Thelen (2014) cautions researchers not to conflate coordinated capitalism with egalitarian capitalism. The unintended consequence of institutionalized advantages for labor market insiders is that it increases the barriers that jobseekers have to overcome to become insiders (Biegert 2014; Fervers and Schwander 2015). Unlike orthodox economics, however, the dualization literature does not claim that regulating institutions have effects on overall unemployment. Instead, it argues that the institutionalized advantages enjoyed by insiders may affect the *distribution* of jobs.

The Institutional Insider/Outsider Divide, Welfare Benefits, and Unemployment

The divide between labor market insiders and outsiders is relevant to the study of how benefits affect unemployment for two reasons. First, it is the unemployed, and thus outsiders, who receive unemployment benefits or minimum income benefits. Second, the insider/outsider divide affects the availability of higher quality jobs. In a context of a strong insider/outsider divide, employed insiders remain in their positions and employers are more selective, which leads to fewer and worse job offers for outsiders. Here, generous benefits create a disincentive to job search because quality job offers are scarce, whereas low benefits may force jobseekers to take on jobs they would otherwise decline. By contrast, a labor market with a moderate insider/outsider divide will yield better job opportunities for jobseekers. In this instance, generous benefits might lower unemployment because improved job-search and job-matching processes can help jobseekers avoid bad jobs.

Two sets of labor market institutions are most likely to determine the insider/outsider divide: (1) EPL for permanent and temporary contracts, and (2) the configuration of the wage bargaining process in terms of unionization and centralization (see Emmenegger et al. 2012; Palier and Thelen 2010; Rueda 2005; Thelen 2014). First, EPL determines how difficult it is to hire and fire employees, which reduces the flow in and out of the labor market. EPL thus stabilizes the positions of insiders (Barbieri 2009; Gangl 2003; Gebel and Giesecke 2011). If letting people go in economic downturns is impeded by strict EPL, employers are less likely to offer insider positions to jobseekers. This may be exacerbated if employers can easily offer temporary instead of permanent contracts (Eichhorst and

Marx 2011; Palier and Thelen 2010). If temporary contracts are less protected than permanent contracts, employers are more likely to offer temporary jobs to jobseekers, and less likely to convert temporary jobs into permanent positions. This increases the number of job separations and reduces the number of attractive job opportunities (Barbieri and Cutuli 2016; Bentolila et al. 2012; Gebel and Giesecke 2016; Noelke 2016). The disparity between EPL for permanent contracts and temporary contracts will thus increase the insider/outsider divide and reduce job opportunities for jobseekers.

Second, unionization and centralization may shape the wage bargaining process to the detriment of outsiders. Higher levels of unionization increase unions' bargaining power, which results in less wage inequality, better working conditions, and stronger wage growth for the employed (Brady et al. 2013; Freeman and Medoff 1984; Rueda and Pontusson 2000; Western and Rosenfeld 2011). Because their membership consists primarily of permanent workers, unions are often thought to represent insider interests (Lindbeck and Snower 1988). In addition, increasing wages and secure positions for the employed might make employers reluctant to hire. If so, jobseekers will be more likely to receive offers for atypical jobs, if any. In addition to unionization, wage bargaining centralization is important in the bargaining process (Palier and Thelen 2010; Rueda 2005). Centralization refers to the level at which bargaining takes place and the degree to which unions are able to coordinate their goals. Centralized bargaining might help unions achieve better outcomes for their members, which, in line with the previous argument, could come at the detriment of outsiders. Unionization and centralization could thus increase the insider/outsider divide, which would negatively affect job opportunities for jobseekers.

Hypothesis 1 (regulation): The effect of increasing unemployment benefits and minimum income benefits on unemployment varies with the disparity in EPL for permanent and temporary contracts, unionization, and wage bargaining centralization. Benefits increase unemployment in contexts with a larger EPL disparity, higher unionization, and higher centralization. Benefits reduce unemployment in contexts with a smaller EPL disparity, lower unionization, and lower centralization.

Hypothesis 1 is called the regulation hypothesis because it posits that the insider/outsider divide is determined on a single dimension between a flexible and a regulated labor market. Yet, there is reason to doubt that labor market institutions have a uniform impact on the insider/outsider divide. When describing institutional regimes and their dualization tendencies, researchers have found large insider/outsider divides in Continental European and Mediterranean countries. Liberal and Nordic countries show lower levels of dualization (Häusermann and Schwander 2012; Thelen 2014). The assumption that higher levels of regulation necessarily lead to a greater insider/outsider divide is thus at odds with the high levels of unionization and wage bargaining centralization in Nordic countries. Hence, the complementarity of institutional arrangements is essential. When centralized wage bargaining is in place, strong unions have an incentive to pursue moderate wage growth that benefits the whole economy, because detrimental outcomes cannot be externalized (Calmfors and Driffill 1988). Thus, strong unions cooperate with employers and the government to achieve a beneficial bargaining outcome (Thelen 2014; Wright 2000). This results in moderate wage increases and better job opportunities for jobseekers (Hicks and Kenworthy 1998; Streeck 1992; Western 1998).[3] By contrast, some Continental European countries, such as Germany, are less unionized. In such cases, unions seek bargaining outcomes tailored to their specific clientele (Eichhorst and Marx 2011; Palier and Thelen 2010).[4] They pursue maximum wage increases, which are less considerate of the greater economy but still have widespread influence because of

relatively high levels of centralization and coverage. The outcome is beneficial for insiders but leaves outsiders with lower chances of quality employment. Accordingly, a regulated labor market regime may lead to either segmented or solidaristic coordination depending on the configuration of its institutional components (Thelen 2004).

Hypothesis 2 (configuration): The effect of increasing unemployment benefits and minimum income benefits on unemployment varies with the configuration of the wage bargaining process. Benefits increase unemployment in contexts of lower unionization and higher centralization and vice versa. Benefits reduce unemployment in contexts of high unionization and high centralization and contexts of low unionization and low centralization.

ANALYTIC APPROACH

The analysis aims to estimate how the relationship between benefits and unemployment varies by the level of the institutional insider/outsider divide. To this end, I combine the time series of country-level institutional indicators with data on individual unemployment from 20 European countries and the United States from 1992 to 2009.[5] The use of cross-national data over a long period of time maximizes variation in institutional arrangements. The multilevel structure of the data overcomes limitations of prior studies, which often operated exclusively at the macro level (e.g., Layard et al. 2005; Nelson and Stephens 2012; Nickell 1997; OECD 2006). I transform the repeated cross-sectional data from the EULFS and CPS into pseudo-panels to estimate fixed-effects models (Deaton 1985). The term pseudo-panels refers to a technique to transform repeated cross-sectional data on the individual level into synthetic panel observations on the level of social groups; this enables the use of panel regression techniques in the absence of real individual-level panel data. Because the analytic approach is intertwined with the construction of the dataset, I first explain pseudo-panels in more detail and how I use them in fixed-effects panel regression models.

The pseudo-panel technique is relatively uncommon in sociological research (but see Barbieri and Cutuli 2016; Jæger 2013; Neugebauer 2015). Pseudo-panels allow researchers to estimate panel data models on the basis of repeated cross-sections. In a seminal article, Deaton (1985) proposed following cohorts and estimating cohort fixed effects from repeated cross-sectional data. The researcher can define cohorts by any number of time-constant individual characteristics. The idea is that after grouping all individuals who share the same individual characteristics into cohorts, researchers can treat the group means within these cohorts as panel observations. When following the cohorts, scholars observe new samples of individuals every year. At the group level, however, individuals can be considered comparable over the years as long as the repeated cross-sections are representative. This study uses country-specific birth cohort, sex, and education groups as the units of analysis. The dependent variable is the mean value of unemployment within these groups, that is, their unemployment rate. The analysis thus operates on the meso level of the groups. Instead of correlating institutional indicators with country-level unemployment rates, I examine the relationship between benefits and the employment performance of sociodemographic groups, using individual-level information to model the group mean.

The analysis uses the panel data structure in fixed-effects panel regression models (Allison 2009). Fixed-effects models use repeated observations of the unit of analysis to decompose the error term of a linear regression model into a time-constant error term ϑ_i and a time-varying error term ε_{it}. Formally, the models can be expressed as follows:

$$Y_{it} = c_i + \beta_x X_{it} + \beta_P P_{it} + \beta_{xP} X_{it} P_{it} + \beta_Z Z_{it} + \vartheta_i + \varepsilon_{it}$$

where Y_{it} is the unemployment rate of sociodemographic group i in year t. On the right-hand side c_i is the time-constant cohort-specific intercept. $\beta_{xp} X_{it}$ refers to the welfare benefits, that is, unemployment benefits and minimum

income benefits. $\beta_P P_{it}$ signifies the institutional insider/outsider divide. $\beta_{xp} X_{it} P_{it}$ represents the interaction term between benefits and the institutional insider/outsider divide. I test the regulation hypothesis by using two-way interactions between the benefits and the EPL ratio, unionization, and wage bargaining centralization. I test the configuration hypothesis with three-way interactions, in which the interaction between benefits and unionization is further interacted with centralization. $\beta_Z Z_{it}$ denotes various time-varying control variables (see below). ϑ_i and ε_{it} are the time-constant and time-varying component of the error term.

The fixed-effects transformation subtracts the unit-specific mean of each variable from its value in each time period. The equation estimated via the fixed-effects models is the following:

$$(Y_{it} - \bar{Y}_i) = \beta_x (X_{it} - \bar{X}_i) + \beta_P \left(P_{it} - \bar{P}_i\right) + \beta_{xP} \left(X_{it} P_{it} - \bar{X}_i \bar{P}_i\right) + \beta_Z (Z_{it} - \bar{Z}_i) + \varepsilon_{it}$$

The transformation eliminates the time-constant group-level difference in unemployment c_i and the time-constant error term ϑ_i. As a result, coefficients are estimated using within-subject variation alone, which rules out bias due to time-invariant unobservables.[6] The cohort panels in this study are determined by the country of residence, birth year, sex, and education. Thus, the fixed effects account for all time-constant unobserved confounders on the level of these groups. The inclusion of fixed effects on the meso level of synthetic cohorts is the key advantage over the more frequently applied two-way fixed-effects models, which use individual-level data in a cross-national setting and include fixed effects for countries and time (e.g., Brady et al. 2013). The pseudo-panel fixed effects account for more fine-grained unobserved time-constant heterogeneity than do country-level fixed effects. The technique thus offers an invaluable advantage in light of the number of potential confounders (Allison 2009). For instance, this differences out labor market structures, culture, work ethic, and the specific advantages of education, age, or sex groups. In addition, the models use panel robust standard errors, which are consistent in case of heteroscedasticity and autocorrelation.[7]

In addition to enabling fixed-effects regression, a pseudo-panel approach with cross-national comparative multilevel data provides a number of advantages over previous studies. First, unlike country case studies, this analysis models the macro context of benefits and the heterogeneous effects of benefits across different institutional settings. Second, the individual-level information on labor market status is cross-nationally comparable. Previous macro comparative studies relied on nationally reported unemployment rates. Because national definitions of unemployment differ, comparing reported unemployment rates is problematic (Howell and Rehm 2009). This is not an issue for the present study because the unemployment rates for the cohorts are based on micro-level information.[8] Third, the multilevel structure of the data allows for adjustment for compositional heterogeneity. Previous research shows that macro-level institutions can have idiosyncratic effects on unemployment in different age, sex, and education groups (Bertola, Blau, and Kahn 2007). In contrast to macro-level studies, the meso-level data make it possible to adjust for compositional heterogeneity in terms of country-specific birth cohort, sex, and education groups.[9]

Of course, pseudo-panels are not preferable over individual-level panel data. One central assumption of the present models is that the effect of benefits is not systematically biased within the country-specific birth cohort, sex, and education groups. However, in the absence of long-running cross-national panel data, constructing pseudo-panels from the repeated cross-sections is arguably a next-best solution. The representative nature of the cross-sections could even lead to advantages compared to individual panel data, because these data are not subject to panel attrition and nonresponse as sources of bias (Deaton 1985; Verbeek and Vella 2005).

DATA

The analysis uses data on all working-age individuals (age 15 to 64) from the EULFS for 20 European countries and the CPS for the United Sates covering 1992 to 2009. Both the EULFS and the CPS provide large-scaled, standardized, and representative repeated cross-sectional information on individuals in private households with a special focus on their working life. Because I only use basic variables on labor market status, birth year, sex, education, and marital status, the two datasets are comparable (for other work combing the two datasets, see Hipp and Leuze 2015). The combination of the datasets offers the singular opportunity to analyze the labor markets of Europe and the United States over a long time period using annual micro-level data. The analysis starts in 1992 because the EULFS did not collect information on education prior to that year. Macro-level institutional indicators are merged with the micro data. The full set of macro-level variables is available until 2009, which is the upper limit for the observation period. Before transforming the data into pseudo-panels, the full dataset comprises almost 20 million cases, with yearly case numbers ranging from about 8,500 in Denmark in 2000 to about 270,000 for Italy in 2005.

Panel Construction and Dependent Variable

The cohort panels are based on information on country of residence, sex, birth cohort, and education. To construct the sociodemographic groups, the individuals are first sorted according to their 21 different countries of residence. Then they are grouped according to their sex. The sample is split into 13 five-year birth cohorts spanning birth years from 1928 to 1994.[10] Finally, individuals are grouped according to three educational levels following the 1997 version of the International Standard Classification of Education (ISCED): low education includes respondents with lower secondary education or less (ISCED0-2), medium education contains upper- and post-secondary education (ISCED3-4), and high education represents persons with a tertiary education (ISCED5-6). Hence, I sort individuals from 21 countries, 2 sexes, 13 birth cohorts, and 3 educational levels into 1,638 units of observation. Because some countries entered the EULFS at a later time point or missed years, some birth cohorts are not part of the sample, which leaves the actual number of units at 1,579.[11] The units of observation are followed up to 18 years, yielding a total case number of 18,266.

The dependent variable is labor market status (1 = unemployed, 0 = employed). The surveys follow the definition of the ILO (1982), which considers people unemployed if they do not have a job, if they have actively looked for work in the past four weeks, and if they are currently available for work. Individuals are deemed employed if they had worked at least one hour during the previous week.[12] Members of the country-specific sociodemographic groups are collapsed into one observation. Therefore, individual-level variables are aggregated at the group mean. Consequently, the dependent variable is the sociodemographic groups' *unemployment* rate.[13] When constructing the cohorts, yearly cohort-cells have to be of reasonable size so that the unemployment rate can be estimated robustly.[14] In the present dataset, the cohort-cells have 16,500 members on average, which should provide for reliable measurement. However, cohort-cell case numbers vary widely. To tackle possible measurement error in the dependent variable, the models weight the cohort-cells by the square root of the number of observations (Neugebauer 2015). This gives more weight to observations whose measurement of the unemployment rate is more robust.[15]

Explanatory Variables

The main explanatory variables are country-level institutions. I use net replacement rates to indicate the generosity of *unemployment benefits.* Net replacement rates are the percentage of one's former income received by an average production worker from unemployment insurance net of taxes and social security contributions. Van Vliet and

Caminada (2012) provide net replacement rates for singles and one-earner families with two children that focus on the replacement rate in the initial phase of unemployment. To take into account different family situations, I use the average of the two indicators.[16]

Nelson (2010) collects information on the absolute amounts of *minimum income benefits*. The main component of the indicator is social assistance. Housing supplements, child support, and other benefits are added as long as they are not deducted from social assistance. I use the average absolute payments from several household constellations to construct a ratio that divides payments by the average wage. The indicator thus captures the economic support that minimum income benefit schemes provide as a percentage of the average wage. Minimum income benefits do not just serve as an alternative measure of unemployment benefits. The correlation of the two benefit schemes was rather low (.31 in the dataset used here).

I use three indicators to measure the institutional insider/outsider divide on the labor market. The OECD provides time series for the employment protection of individuals on permanent and temporary contracts, which quantifies the costs and procedures involved with dismissal (range 0 to 6) (Venn 2009). To capture the disparity in protection for workers in different contract types, I calculate the *EPL ratio* between the two indicators.[17] *Unionization,* also provided by the OECD, captures the organizational power of unions as the percentage of salary- and wage-earners who are union members. To measure the *centralization* of the wage bargaining process, I use an indicator developed by Iversen (1999) and extended by Visser (2013). The indicator measures the degree of coordination and centralization by combining the level of bargaining and union concentration at the respective levels (range 0 to 1).[18]

Controls

Following previous studies, the analysis includes a set of macro-level controls that might vary with time and were thus not accounted for by the fixed effects (see Layard et al. 2005; Nelson and Stephens 2012; Nickell 1997; OECD 2006). An important dimension of the wage bargaining process is how many workers are actually covered by its outcome. I use Visser's (2013) adjusted *coverage* indicator to model the percentage of workers who are covered by wage bargaining agreements.[19, 20, 21] Welfare states try to "activate" unemployed citizens via active labor market policies (ALMP), such as labor market retraining, job-search assistance, direct job creation, and employment subsidies (Bonoli 2010). The extent to which a country invests in *ALMP* is measured as public expenditures relative to the GDP. To consider business cycles, this indicator is divided by the unemployment rate. *Labor taxes* affect labor demand and supply because they increase labor costs for employers yet also lower employees' net earnings (Nickell 1997). The OECD calculates the labor tax wedge for a single-earner couple with two children and an average income. The tax wedge is the sum of personal income tax and social security contributions as a percentage of total income. *Childcare* policies affect the job opportunities of parents who want to work (Gornick, Meyers, and Ross 1997). A country's dedication to publicly provided childcare is measured via the total public expenditure on childcare as a percentage of the GDP. Finally, I use the OECD's *output gap* as an indicator of national business cycles (Bassanini and Duval 2009). The output gap measures the distance between the trend-based prediction of a country's GDP and actual outcome. Table A1 in the online supplement summarizes the macro-level indicators by country. Because the multivariate analysis is based on within-country variation, the table provides the average value of the respective indicator by country ($\bar{x}$), the within-country standard deviations (w-sd), and the number of years in which the indicator changed compared to the previous year ($N \Delta$). Because the multivariate analysis used standardized indicators to facilitate the comparison of effect sizes, the table also shows the overall within standard deviation to provide substantive meaning for the interpretation of the coefficients.

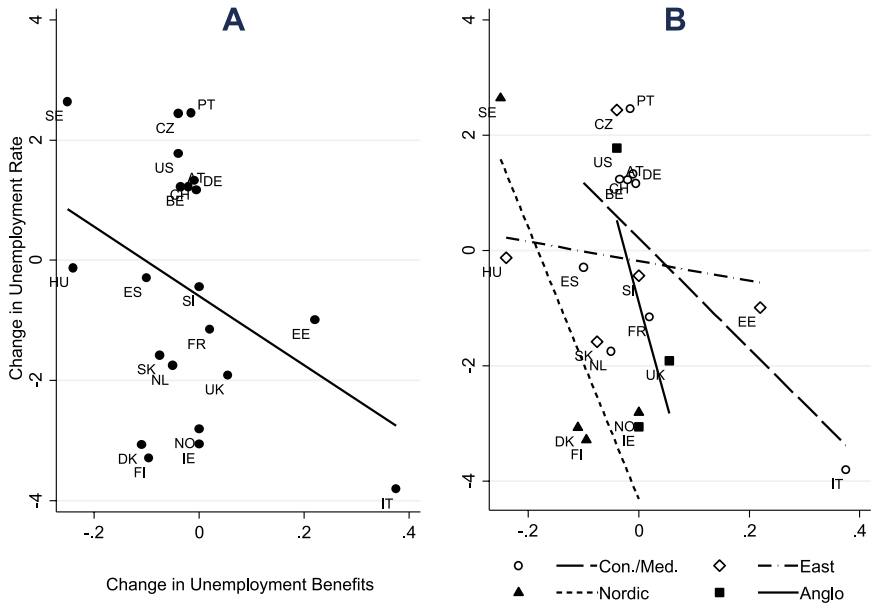

Figure 1. Changes in Unemployment Rates and Unemployment Benefits from 1992 to 2009 in 21 Countries

Note: Change scores for unemployment and unemployment benefits computed as differences between 1992 and 2009 (due to missing data, first observation is 1994 for SK and CZ, 1995 for HU, 1996 for PT, 2000 for EE, and 2002 for SI).

In addition to the institutional and macroeconomic indicators, all models include dummies for the survey *waves* to account for economic shocks and trends that affect all countries. This makes it possible to assess the impact of institutional changes against a common trend. Finally, the household context is strongly associated with individual unemployment (DiPrete and McManus 2000). In the absence of an ideal measure for the typical household composition in the sociodemographic groups, the models include *marital status,* operationalized as the average rate of married individuals within the respective groups.

RESULTS

Descriptives

Figures 1 and 2 plot the change in unemployment rates (provided by the OECD) against the change in the level of unemployment benefits and minimum income benefits between 1992 and 2009.[22] Panel A in the two figures shows the overall bivariate association between changes in benefits and unemployment in the 21 countries. To see whether there is descriptive evidence for a moderating impact of the institutional insider/outsider divide, Panel B groups countries into Continental/Mediterranean, Nordic, Anglo-Saxon, and Eastern European clusters. The existing literature sees a large insider/outsider divide in Continental/Mediterranean countries and a smaller divide in Nordic and Anglo-Saxon countries (Häusermann and Schwander 2012; Thelen 2014). Eastern European countries have so far not been included in such typologies.

Figure 1 shows that, comparing 1992 and 2009, there is a negative bivariate association between changes in unemployment benefits and changes in the unemployment rate (Panel A). Some countries, such as Italy, Finland, Denmark, and Ireland, managed to lower unemployment by almost 4 percentage points. On the other hand, unemployment in Sweden, Portugal, and the Czech Republic increased

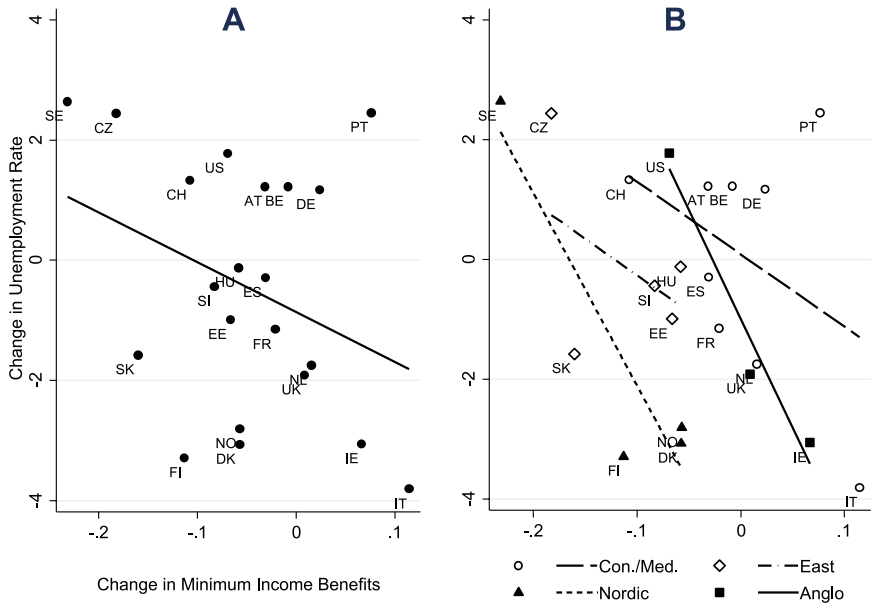

Figure 2. Changes in Unemployment Rates and Minimum Income Benefits from 1992 to 2009 in 21 Countries

Note: Change scores for unemployment and unemployment benefits computed as differences between 1992 and 2009 (due to missing data, first observation is 1994 for SK and CZ, 1995 for HU, 1996 for PT, 2000 for EE, and 2002 for SI).

by more than 2 percentage points in the same period.[23] Changes in the level of unemployment benefits range from reductions of around 20 percentage points in Sweden and Hungary to increases of 20 percentage points in Estonia and almost 40 percentage points in Italy. By clustering the countries, I can draw fitted lines that indicate potential institutional interactions (Panel B). The bivariate association between unemployment benefits and unemployment is negative in all four clusters. However, the association is strongest in the Anglo-Saxon and Nordic countries and rather weak in Eastern European countries. The Continental and Mediterranean countries lie between these clusters.

Similarly, Figure 2 displays a negative association between changes in minimum income benefits and changes in unemployment (Panel A). The changes in minimum income benefits that apply here range from a reduction of around 20 percentage points in Sweden, the Czech Republic, and Slovakia to increases of about 10 percentage points in Italy, Portugal, and Ireland.[24] A strong negative association between changes in minimum income benefits and unemployment again emerges in the Anglo-Saxon and Nordic countries (Panel B) when I cluster the countries and apply fitted lines. The bivariate association is still negative in the Continental and Mediterranean country cluster and the Eastern European country cluster, but it is weaker in both cases.

Overall, Figures 1 and 2 lend support to the job-search-subsidy perspective. The analysis also provides some initial indications that the relationship between welfare benefits and unemployment differs between regime contexts. However, it also reveals that a simple grouping of countries according to typical regime clusters is not sufficient (see also Wulfgramm and Fervers 2015). There is strong within-cluster variation, which indicates that we need to go beyond the level of regimes. Another reason for going beyond

regime clusters is that the static regime typologies they are based on disregard institutional change. Thelen (2014), for instance, points to diverging paths regarding dualization in two Nordic countries, Sweden and Denmark, and two Continental European countries, Germany and the Netherlands. The following fixed-effects analyses model distinct institutional interactions that account for changing contexts.

Fixed-Effects Analyses

Table 1 summarizes the results of five fixed-effects regression models of unemployment on welfare benefits, institutions determining the insider/outsider divide, and control variables. Model 1 includes all the main effects, and Model 2 introduces the two-way interactions between unemployment benefits and the EPL ratio, unionization, and centralization. Model 3 adds the three-way interaction between unemployment benefits, unionization, and centralization. Model 4 mirrors Model 2 and interacts minimum income benefits with the EPL ratio, unionization, and centralization. Finally, Model 5 adds the three-way interaction between minimum income benefits, unionization, and centralization. Hence, Models 2 and 4 test the regulation hypothesis, and Models 3 and 5 test the configuration hypothesis. I use standardized coefficients, so the main effects show the association at the mean of the variable and their respective interaction variables. Furthermore, in the models with three-way interactions, the two-way interactions express the association at the mean of the components of the three-way interaction. The coefficients can be interpreted as the change in unemployment rates associated with a one standard deviation change in the respective variable. The multitude of interaction effects makes it more difficult to interpret the models; hence, I will display the main findings in graphical form.

The baseline model (Model 1) shows a statistically significant negative association between unemployment benefits and the unemployment rates of sociodemographic groups (–1.1 percentage points per standard deviation). This implies that job-search-subsidy effects might be stronger than disincentives. However, there is no significant association between minimum income benefits and unemployment.

Looking at institutions that determine the insider/outsider divide, the EPL ratio shows a small but significant negative association with unemployment (.3 percentage points per standard deviation). The comparatively strong associations between unemployment and unionization and centralization point in opposite directions (around 3 percentage points per standard deviation). The negative coefficient for unionization is not what would be predicted by the orthodox view of labor market rigidities and their impact on unemployment. However, given the very mixed evidence of this literature, it is not entirely unprecedented (e.g., Belot and van Ours 2004).[25] Moreover, as the following models will show, it is questionable whether modeling the impact of single institutions can clarify how the institutional context might influence unemployment. The coefficients of the control variables are mostly in line with theoretical expectations. Expenditure on ALMP is associated with lower unemployment and so is higher spending on childcare. Neither labor taxes nor bargaining coverage have significant coefficients. The significant negative coefficient of the output gap indicates that positive economic development is associated with lower unemployment. Finally, there is a strong association between marital status and unemployment: the higher the rate of married individuals within a sociodemographic group, the lower its unemployment rate. Throughout the different specifications, some of the control variables' coefficients change. Because these changes do not strongly relate to the study's central concerns, I will focus strictly on the main variables of interest and their interactions.

As noted earlier, I compute models that introduce interaction terms to test the hypotheses about the moderating effect of the institutional insider/outsider divide. Models 2 and 3 focus on unemployment benefits. Model 2 includes the two-way interactions of

Table 1. Fixed-Effects Regressions of Unemployment on Welfare Benefits and Their Interactions with the Institutional Insider/Outsider Divide

	Model 1	Model 2	Model 3	Model 4	Model 5
Unemployment Benefits	−.011**	−.010**	−.005	−.010**	−.008*
	(.004)	(.003)	(.003)	(.003)	(.003)
Unempl. Benefits × EPL Ratio		.008***	.009***		
		(.002)	(.002)		
Unempl. Benefits × Unionization		.010***	.015***		
		(.002)	(.002)		
Unempl. Benefits × Centralization		.002	.006*		
		(.003)	(.003)		
Unempl. Ben. × Union. × Cent.			−.021***		
			(.003)		
Minimum Income Benefits	.003	.003	.004	−.002	.007
	(.003)	(.003)	(.003)	(.003)	(.004)
Min. Inc. Ben. × EPL Ratio				.010***	.006***
				(.002)	(.002)
Min. Inc. Ben. × Unionization				.010***	.015***
				(.003)	(.003)
Min. Inc. Ben. × Centralization				.023***	.020***
				(.004)	(.004)
Min. Inc. Ben. × Union. × Cent.					−.023***
					(.005)
Union. × Centralization			−.029***		−.021***
			(.004)		(.004)
EPL Ratio	−.003*	.008***	.007***	.000	−.001
	(.001)	(.002)	(.002)	(.001)	(.001)
Unionization	−.032**	−.032***	−.013	−.050***	−.045***
	(.010)	(.009)	(.009)	(.010)	(.011)
Centralization	.028***	.019***	.021***	.006	.017***
	(.005)	(.005)	(.005)	(.005)	(.005)
Coverage	−.001	.016**	.015*	.010	−.002
	(.006)	(.006)	(.006)	(.006)	(.006)
ALMP	−.014***	−.016***	−.017***	−.013***	−.012***
	(.002)	(.002)	(.002)	(.001)	(.001)
Labor Taxes	.003	.003	.003	.008**	.009**
	(.003)	(.003)	(.003)	(.003)	(.003)
Childcare	−.009***	−.014***	−.013***	−.012***	−.005*
	(.002)	(.002)	(.003)	(.002)	(.002)
Output Gap	−.018***	−.015***	−.014***	−.016***	−.016***
	(.001)	(.001)	(.001)	(.001)	(.001)
Marital Status	−.040***	−.040***	−.041***	−.040***	−.041***
	(.004)	(.003)	(.003)	(.003)	(.003)
Wave Dummies	yes	yes	yes	yes	yes
N	1,579	1,579	1,579	1,579	1,579
Observations	18,266	18,266	18,266	18,266	18,266
R^2 (within)	.335	.340	.348	.348	.355

Note: Coefficients and (panel robust standard errors) from OLS fixed-effects regressions. Constants not shown.
*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests).

unemployment benefits with the EPL ratio, unionization, and wage bargaining centralization. The significant coefficients for the interaction with the EPL ratio and unionization support

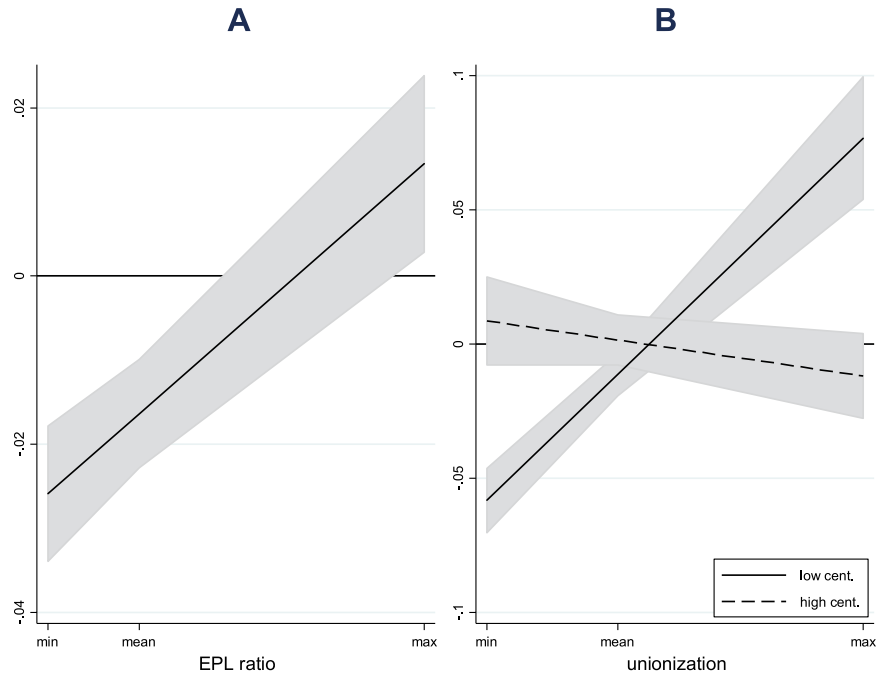

Figure 3. Marginal Effects of Unemployment Benefits on Unemployment Rates across Levels of EPL Ratio, Unionization, and Centralization
Note: Marginal effects computed on the basis of Model 3 (see Table 1). The range of computed marginal effects is determined by empirical levels of EPL, unionization, and centralization.

the regulation hypothesis; they indicate that the association between unemployment benefits and unemployment becomes more positive as the disparity in the EPL ratio and unionization increases. In Model 3, the two-way interaction between unemployment benefits and centralization is also significant and positive. However, the three-way interaction of unemployment benefits, unionization, and centralization is significant and negative. In sum with the two-way interactions and the main effects, this indicates that the association between unemployment benefits and unemployment does not rise with unionization when centralization is high. Thus, while Model 2 lends support to the regulation hypothesis, Model 3 indicates that the configuration hypothesis is more precise by showing that the moderating effect of the wage bargaining process depends on its specific constellation.

To illustrate these results, Figure 3 displays the marginal effects of unemployment benefits on unemployment rates across the levels of the EPL ratio, unionization, and wage bargaining centralization based on Model 3. The *x*-axis is restricted to the empirical values of the three institutional arrangements. Figure 3 shows that increasing unemployment benefits by one standard deviation is associated with a reduction in unemployment of almost 3 percentage points in a context of very low EPL (Panel A). This association comes closer to 0 as the EPL ratio rises. It only becomes significantly positive when the EPL ratio is extremely high; at such levels, a one standard deviation increase in unemployment benefits is associated with about a 1 percentage point increase in unemployment. Panel B shows that unionization and centralization are complementary moderators. When centralization is low (defined as one standard deviation below the mean), lower unionization leads to a more negative association between unemployment benefits and unemployment (up to around –5 percentage

points per standard deviation). In the same context, higher unionization leads to a more positive association between unemployment benefits and unemployment (up to about 6 percentage points per standard deviation). Yet when centralization is high (defined as one standard deviation above the mean), unionization does not moderate the association between unemployment benefits and unemployment rates. In such cases, the coefficient never significantly differs from 0, indicating no association between unemployment benefits and unemployment.

Models 4 and 5 focus on minimum income benefits. Model 4 shows significant positive coefficients for the interactions between minimum income benefits and the EPL ratio, unionization, and wage bargaining centralization. This supports the regulation hypothesis. Yet again, the significant negative coefficient for the three-way interaction between minimum income benefits, unionization, and centralization added in Model 5 confirms that the configuration hypothesis is more precise.

Figure 4 displays the marginal effects of minimum income benefits across levels of EPL ratio, unionization, and centralization based on Model 5. The pattern here is similar to the pattern for unemployment benefits. As the EPL ratio increases, the association between minimum income benefits and unemployment goes from being negative to positive. Whereas minimum income benefits show a negative association with unemployment at extremely low levels of the EPL ratio, of up to about –1.5 percentage points per standard deviation, the association is positive at extremely high levels of the EPL ratio, at around 1.5 percentage points. Again, Panel B shows that the moderating influence of unionization and centralization depends on the respective level of the other institution. The association between minimum income benefits and unemployment becomes more positive for increasing levels of unionization in a context of low wage bargaining centralization. Here, a low level of unionization leads to a negative association of up to –6 percentage points, whereas a high level of unionization can lead to an association of up to around 7 percentage points. By contrast, in a context of high centralization, the association is initially positive (at about 4 percentage points per standard deviation) but gets slightly smaller and ultimately becomes insignificant as unionization rises. The findings for minimum income benefits differ from those for unemployment benefits; there is a positive association between minimum income benefits and unemployment for all but the very highest levels of unionization when centralization is high. The results still support the configuration hypothesis, because minimum income benefits are associated with lower unemployment when both unionization and centralization are high compared to when just one of these factors is high. But in absolute terms, minimum income benefits are still positively associated with unemployment except in extremely unionized cases.

In summary, the findings support the proposition that the effect of welfare benefits on employment is moderated by the institutional insider/outsider divide. Specifically, Models 2 and 4 show that the association between welfare benefits and unemployment gets worse as regulation increases, which seemingly confirms the regulation hypothesis. Yet in accordance with the configuration hypothesis, Models 3 and 5 qualify these findings. The insider/outsider divide does not simply increase with higher levels of regulation. Instead, the specific constellation of institutions determines the institutional insider/outsider divide and thus moderates the association between benefits and unemployment.

Stylized Regimes, Country Case Examples, and Long-Term Associations

To make these results more concrete, I calculate predictive figures of the association between the respective benefit and unemployment for four stylized regime types based on Models 3 and 5 (Table 1). The stylized regimes are based on configurations of the three institutions that determine the insider/outsider divide: the EPL ratio, unionization, and centralization. A "low" value is one

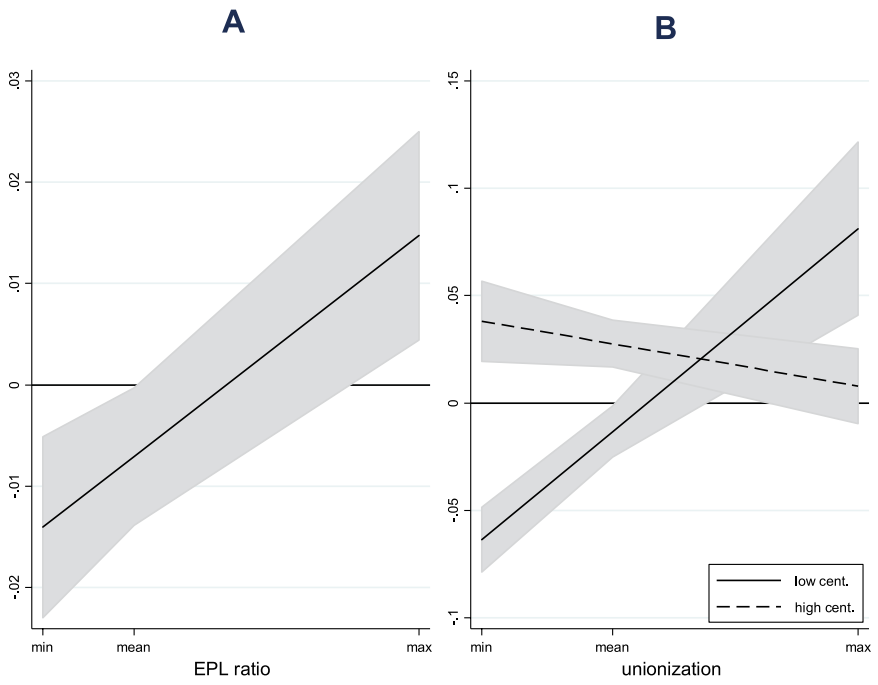

Figure 4. Marginal Effects of Minimum Income Benefits on Unemployment Rates across Levels of EPL Ratio, Unionization, and Centralization
Note: Marginal effects computed on the basis of Model 5 (see Table 1). The range of computed marginal effects is determined by empirical levels of EPL, unionization, and centralization.

standard deviation below the mean. A "high" value is one standard deviation above the mean. These figures further illustrate the main findings and also explore the association between a change in welfare benefits and the development of unemployment in the long-term. They allow me to investigate the timing implications of the disincentive perspective and the job-search-subsidy perspective. This is relevant because disincentives to work should arise immediately after benefit levels increase. By contrast, job-search-subsidy effects are long-term in character; they are based on the assumption that better job matches and the improved employability of jobseekers will ultimately lead to lower unemployment (Morel et al. 2012; Pollmann-Schult and Büchel 2005). Figures 5 and 6 depict results for the stylized regimes and lagged models of benefit changes (modeled using lagged benefit indicators from 0 to 5 year lags; full models can be found in Tables A2 and A3 in the online supplement). At t = 0, the figures illustrate Models 3 and 5 in Table 1 for the stylized regimes. At t = 1 to 5, the figures show the association between a change in benefits and a change in unemployment one to five years onward.[26]

Figure 5 shows unemployment benefits have by far the most negative association with unemployment when there is a low level of all three institutions that determine the insider/outsider divide. However, as the findings for the other regime types show, it is the way the regulating institutions are configured that determines whether the association becomes positive. In a regime with a low EPL ratio, in which the wage bargaining process combines high unionization with high centralization, the association is still negative. By contrast, there is a positive association between unemployment benefits and unemployment in the two regimes that combine a high EPL ratio with either low unionization and high centralization or high unionization and low centralization.

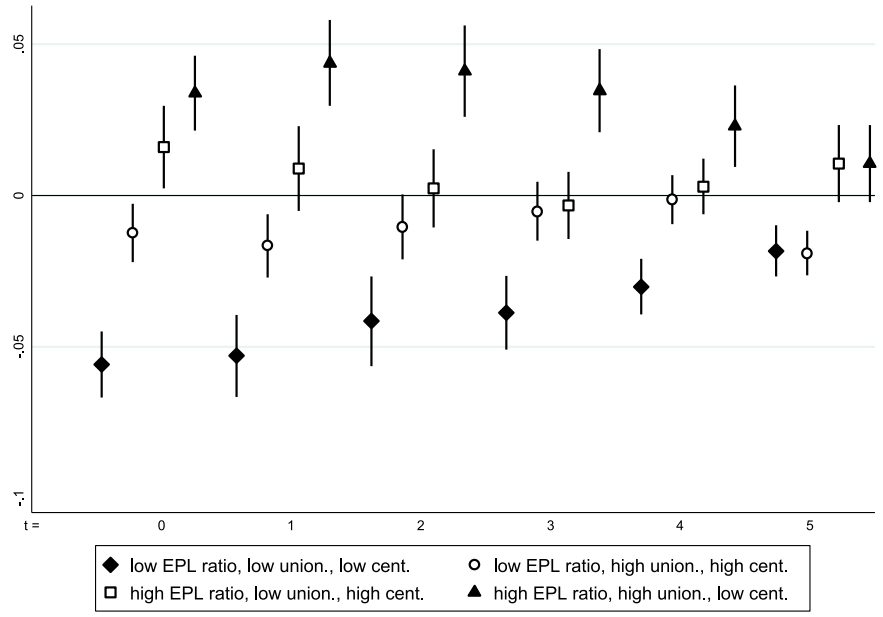

Figure 5. Lagged Marginal Effects (up to five years) of Unemployment Benefits on Unemployment Rates across Configurations of EPL Ratio, Unionization, and Centralization
Note: Marginal effects computed on the basis of Model 3 (see Table 1) including lagged indicators of unemployment benefits up to five years (see Table A2 in the online supplement). Low EPL ratio, unionization, centralization = mean – standard deviation. High EPL ratio, unionization, centralization = mean + standard deviation.

Figure 6 shows the associations between minimum income benefits and unemployment for the four stylized regimes. The main difference between the findings on minimum income benefit and those on unemployment benefit is that raising minimum income benefits is associated with higher unemployment in three of the four stylized regimes instead of two. In a regime with a low EPL ratio, high unionization, and high centralization, there is a lower positive association between minimum income benefits and unemployment than is found in regimes with either high unionization and low centralization or low unionization and high centralization. Yet, as discussed when presenting Figure 4, the association does not become negative.[27]

In the stylized regimes, the association between benefits and unemployment differs strongly according to the configuration of labor market institutions and the extent to which they divide insiders and outsiders. Can we observe these patterns in real-typical country cases?

The most prominent country with a low level of unionization and an above-average level of centralization is Germany. After experiencing historically high levels of unemployment up to 2005, Germany saw its unemployment drop in the later 2000s. Looking at benefits, at first glance neither unemployment benefits nor minimum income benefits changed much in this period. However, reforms between 2003 and 2005 shifted large sections of the unemployed from more generous unemployment benefits to comparatively lower minimum income benefits. The reforms also linked benefits more closely to active job-search efforts, which were increasingly strictly monitored. At the same time, the reforms made it easier for employers to create atypical jobs; for instance, newly established firms could use fixed-term contracts for up to four years without having to provide a valid reason, and employers could now create "mini-jobs," that is, jobs with low hours, low wages, and no benefits. This period saw a steep increase in the

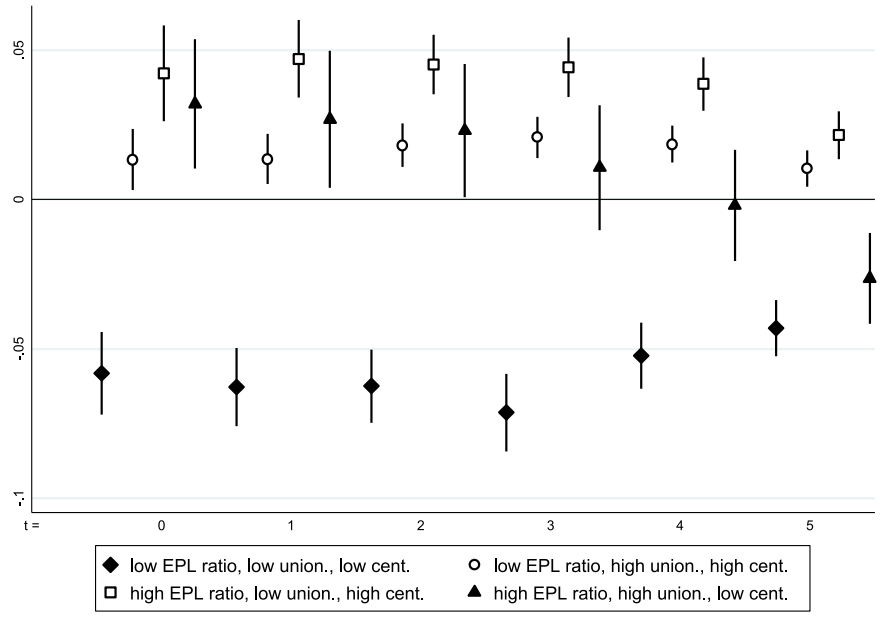

Figure 6. Lagged Marginal Effects (up to five years) of Minimum Income Benefits on Unemployment Rates across Configurations of EPL Ratio, Unionization, and Centralization
Note: Marginal effects computed on the basis of Model 5 (see Table 1) including lagged indicators of minimum income benefits up to five years (see Table A3 in the online supplement). Low EPL ratio, unionization, centralization = mean – standard deviation. High EPL ratio, unionization, centralization = mean + standard deviation.

EPL ratio. The subsequent decrease in unemployment is often described as a result of expansion in atypical employment. This development is in line with this study's findings: in the comparatively dualized German labor market, benefit retrenchment was associated with lower unemployment as individuals were forced to take jobs they would perhaps have declined in another context.

Some countries, such as Ireland and Austria, became more similar to Germany in their institutional configuration in the later 2000s (mostly due to declining unionization), whereas others, like Slovakia, had combined an above-average EPL ratio, lower unionization, and relatively high centralization for a longer time. In line with the models, unemployment rose steeply in Slovakia until 2005 and then decreased again when minimum income benefits were reduced.

The combination of above-average unionization and low centralization is rare. The United Kingdom fit this constellation in the early 1990s, as did Italy and Slovenia in some years. Finland is the only country that was consistently in this category. As the models suggest, a steady retrenchment of unemployment benefits and minimum income benefits throughout the 1990s and 2000s accompanied a consistent decline in unemployment in Finland.

The Nordic countries—Denmark, Norway, and Sweden—are well known for their combination of high unionization and centralization. This configuration was also present in Belgium, Austria, and Ireland until these countries became more similar to Germany in the later 2000s. All Nordic countries have cut back their very generous welfare states to some degree since the 1990s. Among them, Sweden is an interesting case because it not only cut benefits more substantially than did Denmark or Norway, but it also developed a more dualized labor market. Unionization has declined from above 85 percent in the 1990s

to below 70 percent in the later 2000s. Most dramatically, as part of a reform package in 2006 that significantly lowered unemployment benefits from 72.5 percent to 62 percent of former wages, wage bargaining was strongly decentralized and the use of fixed-term contracts was made easier (resulting in a higher EPL ratio). After a severe economic crisis, Swedish unemployment levels consistently decreased until the early 2000s, when they substantially rose again, which prompted the reforms. The changes were indeed accompanied by a subsequent decrease in unemployment, possibly because lowering benefits works well in an increasingly dualized labor market with more atypical jobs. However, the results of this study suggest that Sweden has turned its back on a model that could have been equally successful in lowering unemployment but without increasing labor market inequality.

Finally, the United States is the most obvious country that combines low levels of all three institutions that determine the insider/outsider divide. Hence, we would expect increasing benefits to be associated with lower unemployment. Unemployment benefits only changed from 58.5 to 54.5 percent in the observation period, but minimum income benefits dropped from around 22 percent to about 15 percent of average wages. U.S. unemployment rates dropped throughout the 1990s, then briefly spiked in the early 2000s before quickly decreasing; they only rose again during the economic crisis. The model predictions are thus not completely borne out in the United States. This is probably because the models do not aim to fully predict unemployment but to estimate the association between benefits and unemployment while adjusting for potential confounding factors. Because some important factors that influence trends in unemployment are not included in the models, and because the ceteris paribus conditions of the multivariate analysis are not met, it is possible for unemployment to increase although the specifications of the models would predict a decline. However, the implication is that increasing benefits would not have harmed the development of unemployment in the United States. According to the models, the quick recovery in U.S. unemployment after the crisis was aided rather than hindered by the temporary increase in the generosity of the Emergency Unemployment Compensation measure. The pattern observed in Switzerland, a country that also has low levels of regulation in respect to the three institutions, fits the predictions better. Unemployment benefits did not change substantially, but there was a steady decrease in minimum income benefits in relation to average wages. At the same time, unemployment increased from very low levels of between 2 and 4 percent in the 1990s to up to 6 percent in the 2000s.

As a last step, examining the lagged effects in Figure 5, it becomes evident that the association between a change in unemployment benefits and unemployment tends toward zero in all regime types. In some cases they are not significantly different from zero after some years. Similarly, Figure 6 shows that the coefficients for minimum income benefits decrease over time. Yet, they remain significantly different from zero except for the regime type with a high EPL ratio, high unionization, and low centralization. Because the associations tend to be strongest immediately after a change in benefits, and because there are both negative and positive associations, the findings for the lagged models do not strongly support either the disincentive perspective or the job-search-subsidy perspective. In regime types with a high EPL ratio and either low unionization and high centralization or high unionization and low centralization, the positive association diminishes over time, which we could interpret as an initial disincentive effect that is outweighed by job-search-subsidy effects in the long run. This seems a stretch, however, as the associations come closer to zero in all four regime types. Instead, the change over time might be due to institutional changes that the models cannot take into account. For instance, there may be additional benefits reform after some years, thus biasing the results for all subsequent years.

Moreover, the time restrictions of the dataset cause the case numbers to go down with each added lag.

Weighing the evidence, the findings indicate that the institutional context influences whether disincentive effects outweigh job-search-subsidy effects or vice versa. The empirical evidence suggests that for job-search subsidies to come into effect, the labor market needs to offer jobseekers attractive opportunities. When a large institutional insider/outsider divide reduces quality job opportunities, generous benefits are a disincentive to job search. There is no evidence that the strong job protection and high wages enjoyed by insiders serve as an added incentive to look for these positions in countries with a strong insider/outsider divide, so that increased job-search efforts might ultimately make up for the lower job opportunities. In fact, only meager benefits force jobseekers to take job offers they would otherwise decline.

DISCUSSION

This study investigated the effect of welfare benefits on unemployment. The dominant disincentive perspective contends that generous benefits act as a disincentive to work and increase unemployment. By contrast, proponents of the job-search-subsidy perspective argue that generous benefits lead to better job matches and lower unemployment levels. This article showed that the relationship depends on the institutional context. I demonstrate that the disparity between EPL for permanent and temporary contract holders, and the configuration of the wage bargaining process in terms of unionization and centralization, determine the institutional insider/outsider divide and thereby moderate how unemployment benefits and minimum income benefits affect unemployment. To test this proposition, the analysis combined data from 20 European countries in the EULFS and from the United States CPS from 1992 to 2009. I transformed the repeated cross-sectional data into pseudo-panels to use fixed effects at the level of sociodemographic groups. The empirical findings corroborate the main proposition of the article: the job-search-subsidy function of generous benefits can indeed outweigh potential disincentives to work, lowering unemployment at the aggregate level. However, for job-search subsidies to come into effect, the labor market needs to offer jobseekers attractive opportunities. The labor market's capacity to provide this type of labor demand depends on the positional advantages labor market insiders receive from the institutional context. When a large institutional insider/outsider divide diminishes quality job opportunities, the disincentive effects of generous benefits seem to prevail. Within such institutional contexts, meager benefits force jobseekers into employment, possibly accepting job offers they would otherwise decline.

The study makes three distinct contributions to the literature. First, it establishes the institutional insider/outsider divide as a moderator of the relationship between benefits and unemployment. In a broader perspective, this supports scholarship that points out the existence of institutional interdependencies in national economies (e.g., Amable 2003; Hall and Soskice 2001; Iversen 2005). Second, by testing the hypothesis with indicators for unemployment benefits and minimum income benefits, the analysis extends beyond prior work's focus on unemployment insurance. I find very similar patterns for the relationship between both benefits and unemployment, which suggests their impact on job-search processes follows similar mechanisms. Third, by using pseudo-panels, the study illustrates a rarely used modeling technique. Comparative micro-level datasets are rarely in panel form, so applying this method in future studies and revisiting existing evidence might prove useful for comparative research.

Two important matters could not be tackled within the scope of this study. First, the analysis relied on a binary distinction between employment and unemployment. Distinguishing between different types of jobs might provide further insights on the effect of benefits on labor markets (Kalleberg 2011).

Previous studies indicate that in labor markets with a large insider/outsider divide, jobseekers are not only more likely to remain out of employment, they are also more likely to enter atypical jobs (Biegert 2014; Fervers and Schwander 2015; Schwander and Häusermann 2013). On the other hand, in several countries, workers in low-wage jobs can receive welfare benefits. Hence, in certain contexts, benefits could subsidize low-wage jobs rather than providing job-search subsidies.[28] Future studies that explore how benefits and labor market institutions relate to the quality of jobs could complement the present analysis. Second, although the findings suggest that unemployment benefits and minimum income benefits work via similar mechanisms, the emerging differences between the two warrant further study. This is especially relevant because the dualization literature argues that exclusive benefits, such as unemployment insurance, can themselves be an integral part of an insider/outsider labor market (Emmenegger et al. 2012; Palier and Thelen 2010).

The present study adds a crucial dimension to the existing research on the relationship between the welfare state and unemployment. It establishes that lower levels of the institutional insider/outsider divide make it possible for generous welfare benefits to have a positive impact on unemployment. The results suggest that individuals are willing to work despite monetary incentives as long as there are attractive job opportunities. The findings have two important policy implications. First, they tie in with the claims of the flexicurity literature (see Kalleberg 2011; Viebrock and Clasen 2008; Wilthagen and Tros 2004). This literature highlights the beneficial interaction between a generous welfare state and a flexible labor market. Proponents argue that such institutional constellations enable high levels of employment security, especially when combined with ALMP. Similarly, Thelen (2014) describes an "embedded flexibilization," in which generous benefits are necessary to create employment security and to collectivize the social risk of job loss in a liberalized labor market. The results of this study suggest that implementing such strategies could help achieve low unemployment while also providing high levels of social security in times of joblessness.

Second, neither retrenching benefits nor deregulating labor markets are necessarily successful strategies to tackle unemployment. Instead, the study raises an additional question, namely how to break down barriers between insiders and outsiders while retaining the benefits of institutions that improve the positions of insiders. For instance, we know that strong unions are crucial for better working conditions and low wage inequality (Brady et al. 2013; Freeman and Medoff 1984; Western and Rosenfeld 2011). The results imply that the insider/outsider divide does not simply move along a spectrum between flexibility and regulation, but in some configurations coordination does not inhibit the positive effects of benefits for employment. The findings point to constellations that combine high levels of economic security with better working conditions and high and equal wages, without excluding sections of the population from gainful employment.

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Notes

1. In many countries, benefit levels are reduced after a certain amount of time. The job-search-subsidy argument focuses on initial levels of benefits for jobseekers, highlighting their effect on the job-search period immediately after job loss (e.g., Nelson and Stephens 2012). Long-term unemployed

individuals might be discouraged or not employable. Because this affects the intensity of their job search, job-search-subsidy effects are less likely.

2. There are different definitions of insiders and outsiders in the literature. Early iterations of insider/outsider theory used a snapshot perspective on the labor force to define who is an insider and who is an outsider. The employed are considered insiders and the unemployed are considered outsiders (Lindbeck and Snower 1988). Most of the dualization literature has modified this definition by including temporary workers in the group of outsiders (e.g., Rueda 2005). Thus, employed individuals can also be outsiders, but they have a higher propensity of future unemployment. Some contributions to the dualization literature use a life-course perspective (e.g., Schwander and Häusermann 2013). Outsiders are understood as individuals who are more likely to experience unemployment and precarious work situations over their careers. According to this definition, unemployed individuals could be insiders if they only experience a short spell of unemployment between permanent jobs. The life-course definition is helpful, for instance, when investigating the policy preferences of insiders and outsiders. Here, I am interested in how benefits affect the unemployed, that is, individuals who are outsiders at this very moment, which is why the snapshot definition is more appropriate. More importantly, differences between the snapshot definition and the life-course definition do not directly affect the core of the proposed theoretical argument, because it is not about complete congruence between the unemployed and outsiders but about how benefits affect jobseekers' search process and how the insider/outsider divide affects the availability of attractive jobs for jobseekers.
3. Iversen (1998) convincingly argues that the relationship between unions, the wage bargaining system, and economic outcomes such as unemployment depends on the given monetary policy regime. To test whether monetary policy affects the relationships proposed here, I ran a robustness check adjusting for central bank independence (see Table B7 and Figure B2 ["Incl. Central Bank Indep."] in the online supplement). Inclusion of this indicator does not yield substantively different results.
4. Depending on the macro-economic context, beneficial outcomes for insiders could include alternatives to wage increases such as higher job security. Either way, these bargaining outcomes will decrease quality job opportunities for jobseekers.
5. The code for the dataset and analyses is available on the author's webpage.
6. As a robustness check, I conducted the analysis using random-effects models, which use between variation as well. The results do not substantively differ (see Table B12 and Figure B3 ["Random Effects Models"] in the online supplement).
7. Clustering standard errors at the country or country-year level, the main findings remain unchanged, albeit modestly less significant. In another robustness check (available from the author), I ran the models using a multilevel specification that also confirmed the findings (for a similar approach, see Jæger 2013).
8. Rather than modeling national unemployment more accurately, group-level unemployment rates approximate individual-level unemployment. In the absence of real individual panel data, this is a preferable way of modeling the proposed macro-micro mechanisms. When I aggregate the unemployment rates of the various sociodemographic groups at the country-year level, they are still highly correlated (.89) with the official numbers from the OECD, which confirms the validity of the data used here.
9. I also use the data structure to run a robustness check on the subsample of low-educated individuals to see whether disincentive effects are stronger among individuals with lower wage expectations (see Table B8 and Figure B2 ["Low-Educated Sample"] in the online supplement).
10. Because of the restriction to working-age (15 to 64) individuals, 1928 is the first year an individual could be born and still enter the sample in 1992. 1994 is the last year an individual could be born and enter the sample before the end of 2009.
11. I selected the countries according to the availability of micro data and macro indicators. These are the countries in alphabetical order: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, the Netherlands, Norway, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and the United States. Data collection for France starts in 1993; for Austria, Finland, and Sweden in 1995; for the Netherlands, Norway, and Switzerland in 1996; for Hungary in 1997; for Slovakia in 1998; for Estonia in 2003; and for Slovenia in 2004. Data from 1998 are dropped for Ireland and the United Kingdom due to missing information on education.
12. I ran robustness checks in which I coded only respondents who worked at least 35 hours a week or more as being employed. This alternative model reveals some differences from the main analysis, which I discuss in the online supplement (see also Table B9 and Figure B2 ["<35 Hours + Unemployed"]).
13. The definition of the dependent variable excludes jobless individuals who are not actively seeking a job, that is, the inactive. Robustness checks using the nonemployment rate and the inactivity rate as dependent variables yield results that, in line with the theoretical expectations, imply that inactive individuals are less affected by benefits and labor market institutions than are the unemployed (see Tables B10 and B11, Figure B3 ["Inactive" and "Nonemployed"], and the discussion in the online supplement).
14. To increase case numbers, we could think of any number of further time-constant determinants of cohort membership or use a more fine-grained

grouping of birth cohorts. Some possibilities, such as race or place of birth, are not available for the full sample. More importantly, this would reduce robustness in the measurement of aggregated time-varying cohort-level variables, such as the unemployment rate.

15. Because some countries consistently have larger case numbers than others, this procedure might increase their weight in the analysis and thus bias the results. I ran the models without the weights and did not find meaningful differences (see Table B13 and Figure B3 ["Without Weights"] in the online supplement).
16. Other components of unemployment benefits might affect their overall generosity, such as benefit duration, eligibility criteria, and coverage. I ran robustness checks with an indicator that comprehensively included these components but was not available for the full set of countries (Scruggs, Jahn, and Kuitto 2014). I found some differences, which I discuss in the online supplement (see Table B1 and Figure B1 ["Unemp. Benefit Generosity"]).
17. I ran robustness checks using the indicator for EPL for permanent contracts instead of the ratio and controlling for EPL for temporary contracts. The differences in the results indicate that the disparity in EPL for permanent contracts and temporary contracts is more important for the insider/outsider divide and the effect of benefits on unemployment than the overall level of EPL (see Table B6 and Figure B2 ["EPL Permanent Contracts"] in the online supplement).
18. Centralization is a concept closely related to corporatism (although the two are not interchangeable, see Calmfors and Driffill 1988). I ran robustness checks using an indicator for corporatism instead of centralization (Jahn 2014). I found only minor differences, which I discuss in the online supplement (see Table B5 and Figure B1 ["Corporatism"]).
19. There are gaps in the time series for coverage. In order not to lose observations, I interpolate values linearly.
20. Coverage might moderate unionization effects in a similar way to centralization. Furthermore, some countries known for their strong insider/outsider divides, such as France, Portugal, and Spain, show high coverage although centralization is rather low. I ran robustness checks including interactions with coverage instead of centralization and found slight differences, which I discuss in the online supplement (see Table B4 and Figure B1 ["Coverage"]).
21. Another potentially relevant confounder is the organization of unemployment benefits in a Ghent system, where unions administer the benefits. I ran a robustness check excluding the four Ghent countries (Belgium, Finland, Denmark, Sweden); it did not yield substantively different results (see Table B3 and Figure B1 ["Without Ghent Countries"] in the online supplement).
22. The figures use the overall difference in the indicators between two time points: 1992 and 2009. Thus, the figures do not show the substantial variance in the years between these two time points within countries (see Table A1 in the online supplement).
23. In 2009, the unemployment rate in many countries was already affected by the global economic crisis. Using other time frames produces different change rates. However, the overall pattern for the bivariate relationships between benefits and unemployment rates is robust.
24. Judging from the figures, there might be single countries strongly driving the association between changes in benefits and changes in unemployment. I ran the models for unemployment benefits without Italy and Sweden and the models for minimum income benefits without the Czech Republic, Italy, and Sweden (see Table B2 and Figure B1 ["Without Potential Outliers"] in the online supplement). Excluding these potential outliers did not substantively change the main findings.
25. The coefficient became insignificant and dramatically diminished in size when I ran the models without wave dummies. This might hint at potential shortcomings in previous studies, as many did not adjust for global trends (Belot and van Ours [2004] being an exception).
26. The lagged independent variable models deal with two more concerns. First, politicians might increase welfare benefits to appease a growing population of unemployed people. Hence, there might be reverse causality. Second, because measurement on the micro level is spread over the whole year, information on individuals' labor market status might stem from a time point before policy changes took place. The order of events might thus be corrupted in some cases.
27. Additional analyses investigating potential outliers indicate that this prediction changes and becomes more similar to the predictions for unemployment benefits when excluding Sweden, Italy, and the Czech Republic (see Table B2 and Figure B1 ["Without Potential Outliers"] in the online supplement).
28. See the discussion of robustness checks using an alternative dependent variable that only codes individuals with at least 35 work hours as employed (Table B9 and Figure B2 ["<35 Hours + Unempl."] in the online supplement).

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